WHAT IS CLAIMED IS:

1. A multisystematic volume rendering image processing system comprising:

a plurality of image data processing units,

a plurality of image display units,

one or more common volume data storage unit for storing volume data necessary for the image display units, and

a computation server manager, wherein

the image data processing units receive volume data necessary for formation of images requested by the image display units from the volume data storage unit, process image data in accordance with image requests concerning angle and position issued from the image display units, and transmit image results to the image display units;

the image display units each including an input section and an output section transmit the image requests entered through the input sections to the image data processing units, receive the image results processed by the image data processing units and output the image results to the output sections;

the volume data storage unit transmits the necessary volume data to the image data processing units in accordance with requests issued from the image data processing units; and

the computation server manager makes a decision to switch data processing for the plurality of image display units so that a part of the data processing performed by operative one

of the image data processing units will be replaced by data processing performed by another suspended one including a state of low load of the image data processing units.

2. The multisystematic volume rendering image processing system as claimed in claim 1, wherein

when the computation server manager decides the switching, if the same volume data as the volume data handled by the operative image data processing unit are not present in the suspended image data processing unit as a destination of the decided switching, the computation server manager performs controlling to transmit the volume data from the volume data storage unit to the destination image data processing unit and copy additional information from the operative image data processing unit to the destination image data processing unit, and makes the destination image data processing unit execute the data processing.

3. The multisystematic volume rendering image processing system as claimed in claim 1, wherein

when overload is imposed on computation of volume rendering which is being carried out by a first image data processing unit,

the computation server manager judges whether to make a part of the volume rendering be handed over to a second image data processing unit having idle computation resources or not; and

when a decision is made that the part of the volume rendering is handed over, the computation server manager performs controlling to transmit volume data handled by the first image data processing unit from the volume data storage unit to the second image data processing unit and copy additional information from the first image data processing unit to the second image data processing unit, and makes the second image data processing unit execute the data processing which is heretofore executed by the first image data processing unit.

4. The multisystematic volume rendering image processing system as claimed in claim 1, wherein

the computation server manager stores identification names of the volume data transmitted from the volume data storage unit and destination data processing units in a memory in advance;

when the volume data storage unit is requested to send volume data, the computation server manager inquires of the memory whether the same volume data are already sent or not, after the volume data is sent from the volume data storage unit; when the same volume data are already sent, the computation server manager judges whether the volume data are collected to one of the data processing units or not; and

when a decision is made that the volume data are collected to one of the data processing units, the computation server manager performs controlling to copy additional information from a data processing unit to be suspended to another data processing unit as a destination of handover of the volume data and make the handover destination data processing unit execute data processing which is heretofore executed by the data processing unit to be suspended.

5. The multisystematic volume rendering image processing system as claimed in claim 1, wherein

the image requests are data concerning to angle and

position.